

User Survey Results and Actions Taken

NCCS USERS MEETING



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Overview of presentation

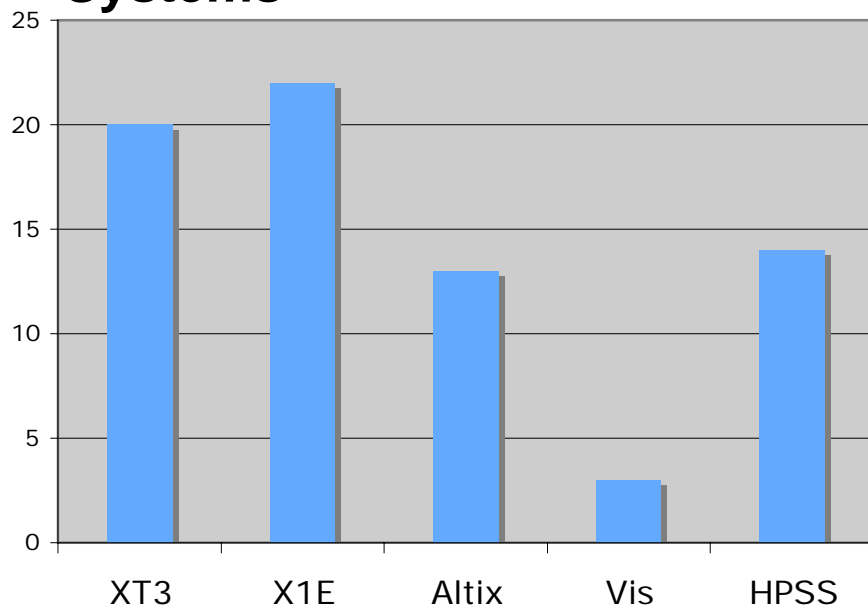
- **User survey information**
 - What was asked
 - What was said
- **Actions taken/pending**
 - Did we actually *use* the survey?

NCCS User Survey

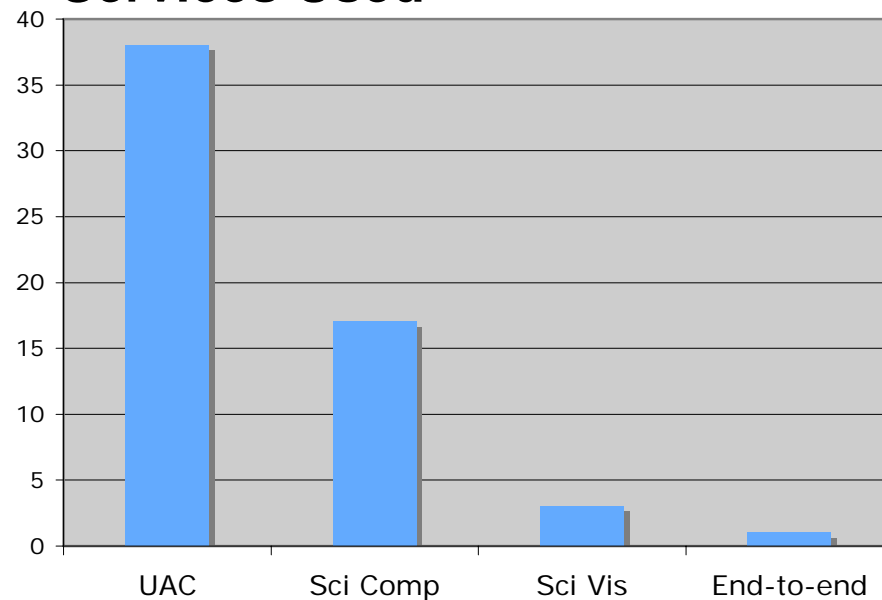
- **Conducted 23 Oct - 30 Nov 2006**
- **Users notified via “NCCS Weekly Update” email**
- **Open to all users**
- **UserID/Name/Email information was optional**
- **Total of 42 responses**
 - *Thanks to all who responded*

Survey Highlights

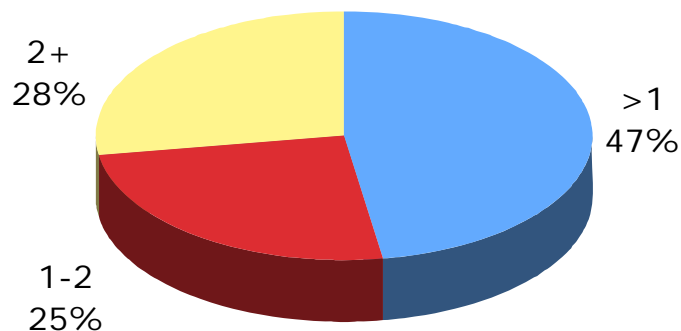
● Systems



● Services Used



● Years as an NCCS User

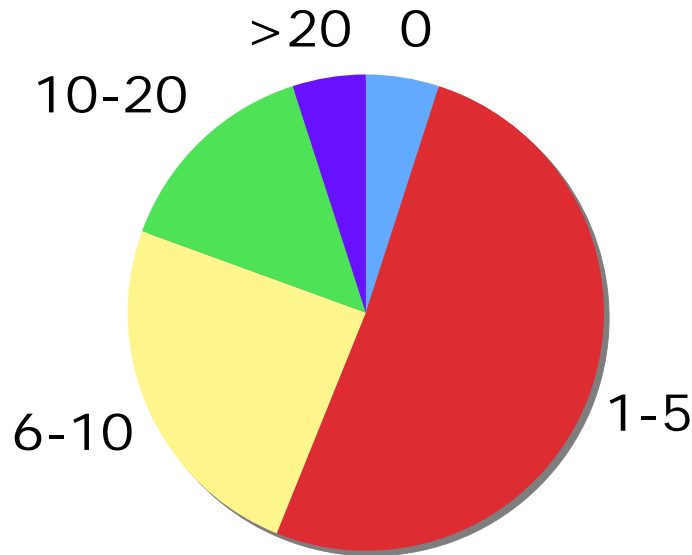


Other Centers Used

- **NERSC**
- **NCAR**
- **ARSC**
- **NASA**
- **NCSA**
- **ANL**
- **NAVO**
- **SDSC**
- **Various University Sites**

User Assistance Center

- **How many requests have you forwarded to the UAC?**



- **How would you rate solutions provided?**
 - 39 responses
 - Average rating 4.0/5.0
- **How would you rate speed of response?**
 - 39 responses
 - Average rating 4.1/5.0

Workshops

- **Several users indicated that they would like to see more hands-on workshops. The topics requested centered around code optimization**
- **Two solutions**
 - Hands-on workshops with the Scientific Computing Group
 - More training/education materials on the website.
While this isn't really a hands-on workshop, it is a good way to provide some forms of training.

Website (www.nccs.gov) Evaluation

- **Ease of navigation**
 - 39 responses, average 3.7
- **System status/history pages**
 - 39 responses, average 3.7
- **User Guides/FAQs**
 - 37 responses, average 3.6

Individual system evaluation trends

- **Cray XT3 (jaguar)**

- Users felt there were too many outages, especially unscheduled
- Scratch disk and batch queue system okay
- Interface with HPSS rated well

- **Cray X1E (phoenix)**

- Batch queue turnaround was a concern
- Other areas rated in the middle of the scale

Typical Batch Jobs

- **XT3**

- Most reported using less than 1000 cores, although some projects were over 4500
- Walltimes ranged from a few hours to 1 day, many in the 10-12 hour range

- **X1E**

- Range of processors used was varied, common responses in the range of 64-256 processors
- Common walltimes in the range of 10-24 hours

HPSS

- **20 of 22 users indicated they were able to effectively use hsi to manage their HPSS data.**
- **Concerns expressed about hsi**
 - Poor interface
 - Large number, big size of files

HPSS

- **Our HPSS is designed around large files**
 - Tar large numbers of small files into several 1-10GB files for better system performance
- **HPSS Updates**
 - Several new tape drives have recently been installed, and these should improve performance of storing/retrieving large files
 - Other system upgrades targeted at helping with small files
 - Again, large files are better!

Productivity

- **Users would like to spend more time testing new science**
- **Users are spending more time than they would prefer in “other” areas**
 - Data management
 - Batch job management
 - Debugging
 - Scaling
- **Some of these tasks are unavoidable.**
- **Project liaisons and the User Assistance Center can help in some areas, such as debugging and scaling**

How can we better support your computing needs?

- **More /home space**
- **Fewer outages**
- **Better queuing policy**
- **More info on website**
 - Differences in compiler versions, bugfixes, etc.
- **Fewer OS upgrades**
 - Unfortunately, these are required as we move to larger systems.

Website Evaluation

- **What is useful?**
 - System info/FAQs
 - Uptime/downtime page
- **What's missing?**
 - Batch job examples
 - Faster notification of downtime/expected uptime
 - Improved 'granularity' of outage info

How do we compare with other centers?

- **More powerful systems**
- **Several users had concerns about system stability**
- **More helpful staff**

OK, enough with the stats...

Are we using the survey to make changes to better support the user?

YES!

Recent Enhancements

- **“*-notice” email lists**
- **Accounting information**
- **Suggestion box**
- **Status page**
- **Web updates**
- **/etc/motd**
- **FAQ updates**
- **Current Issues Pages**
- **Weekly message**
- **NCCS Conference Call**

*-notice email lists

- **Two available**
 - jaguar-notice@email.ornl.gov
 - phoenix-notice@email.ornl.gov
- **High volume of traffic**
 - When a system goes down
 - When it comes back up
 - Downtime description
 - Other announcements
- **Archives maintained online**
- **Sign up through link on NCCS System Status Page**

Accounting Information

- Updated daily
- showusage utility on systems

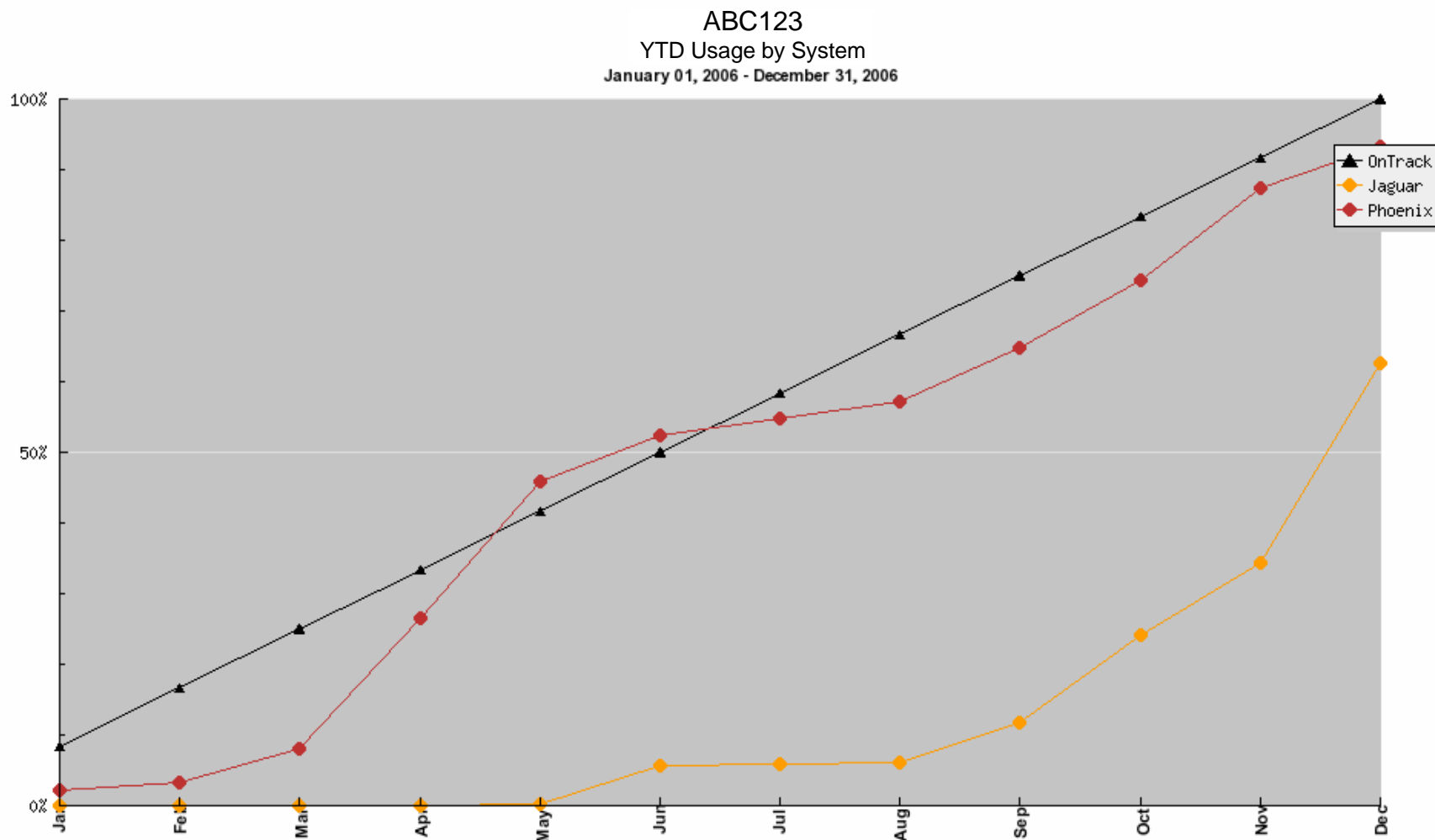
```
$ showusage
```

```
Usage on phoenix:
```

Project	Allocation	Project Totals		jdoe Usage
		Usage	Remaining	
ABC123	10000	7352.86	2647.14	7352.60

- Charts on <http://users.nccs.gov/>

Accounting Information



User Suggestion Box

- Available via 'Questions/Feedback' link on <http://info.nccs.gov>
- User name may be given, or can be anonymous (username allows us to give you feedback)

NLCF

General

Getting Started
Connecting
FAQ
System Status
Available Software
Questions/Feedback
Credit Line

NCCS Suggestion Box

Use this form if you have a suggestion for the NCCS systems. Including your UserID is not required, but having it in the form will allow us to contact you if we have any follow-up questions. Thank you for taking the time to provide us with your suggestions.

1. UserID (optional):

2. What is your suggestion? (limit 5000 characters)

Submit Request

Status Page

- **Started last year, but has seen changes**
- **Four major sections**
 - Current status
 - System timelines
 - Downtime history
 - Status panel

General Information

Current Status

Click on the system name for system-specific scheduled outage and downtime information. ☐

[Phoenix](#) [Jaguar](#) [Ram](#) [Hawk](#) [HPSS](#)

System Timelines

Tables listing major changes to hardware and software on the systems. ☐

[Phoenix](#) [Jaguar](#) [Ram](#) [Hawk](#) [HPSS](#)

Past Downtimes

Historical downtime information organized by Federal Fiscal Year (1 Oct-30 Sep) ☐

[FY2005](#) [FY2006](#) [FY2007](#)

Status Page-Current Status

Phoenix (Cray X1E)

Scheduled Outages

Date/Time ¹ Start	Date/Time End	Planned Activities
28 Mar 8:00 AM	28 Mar 12:00 PM	Maintenance

Current System News

Date	Remarks
------	---------



Recent Downtimes

Date/Time ¹ Down	Date/Time Up	Type ²	Remarks
21 Mar 8:10 AM	21 Mar 12:42 PM	S	Maintenance Replaced two fan controllers
17 Mar 2:53 PM	17 Mar 5:00 PM	U	System crashed due to hardware failure. Jobs running at the time of the outage were killed; jobs in the queue (but not yet running) were not affected.
14 Mar 8:00 AM	14 Mar 12:00 PM	S	System maintenance period. The system was not taken down for maintenance, but job scheduling was suspended during this time. Users were able to log in but jobs would not run.
8 Mar 2:20 AM	8 Mar 1:45 PM	U	System crashed due to hardware failure. Jobs running at the time of the outage were killed; jobs in the queue (but not yet running) were not affected.
7 Mar 8:00 AM	7 Mar 12:07 PM	S	System maintenance

Status Panel

- Shows up on all info.nccs.gov pages.
- Status panel gets information from monitoring software
- The status panel now indicates the last time a check was made
- *The “arrows” now have a date/time stamp indicating when their status last changed*

The screenshot shows a 'System Status' panel with the following information:

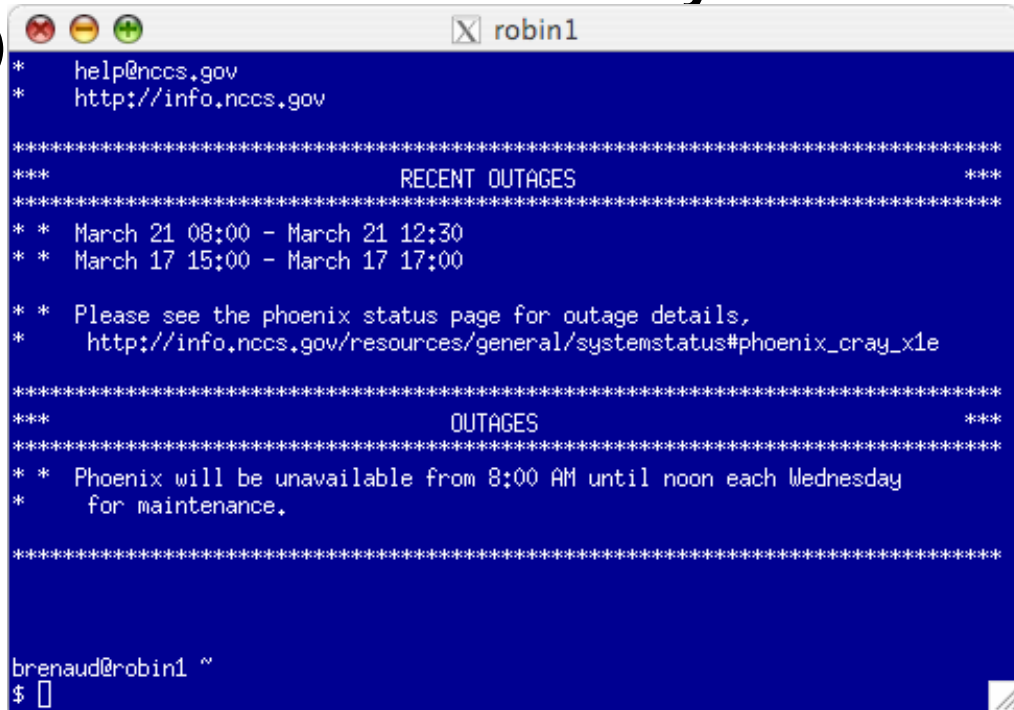
System	Status	Last Refreshed
Jaguar	DOWN	27 Feb 08:40
Phoenix	UP	21 Mar 13:05
Ram	UP	26 Mar 07:45
HPSS	UP	20 Mar 03:01
Hawk	UP	19 Mar 15:55

At the bottom of the panel, there is a link: [Contact the NCCS User Assistance Center](#).

Red arrows from the text in the first three bullet points point to the 'Last refreshed' timestamp, the status arrow, and the status arrow with its timestamp respectively.

System 'motd'

- Updated with important announcements (upcoming downtimes, upcoming/recent upgrades of OS, compilers, etc)
- Last two downtimes (just the times--see the System Status Page for details)

A terminal window titled 'robin1' with a blue background and white text. The window shows the system 'motd' (Message of the Day) message. The message includes contact information for help@nccs.gov and http://info.nccs.gov, followed by a section titled 'RECENT OUTAGES' listing two outage periods: March 21 08:00 - March 21 12:30 and March 17 15:00 - March 17 17:00. It also provides a link to the phoenix status page for outage details. Below this is a section titled 'OUTAGES' stating that Phoenix will be unavailable from 8:00 AM until noon each Wednesday for maintenance. The terminal prompt is 'brenaud@robin1 ~' and the cursor is on a new line with a '\$' prompt.

```
* help@nccs.gov
* http://info.nccs.gov

*****
***                      RECENT OUTAGES                      ***
*****
* * March 21 08:00 - March 21 12:30
* * March 17 15:00 - March 17 17:00

* * Please see the phoenix status page for outage details,
*   http://info.nccs.gov/resources/general/systemstatus#phoenix_cray_x1e

*****
***                      OUTAGES                              ***
*****
* * Phoenix will be unavailable from 8:00 AM until noon each Wednesday
*   for maintenance.

*****

brenaud@robin1 ~
$
```

FAQs/Current Issues Pages

- Updated to reflect current problem trends and common questions
- Per-system and center-wide FAQs are available

[Home](#) > [resources](#) > [jaguar](#)

NLCF

General

- [Getting Started](#)
- [Connecting](#)
- [FAQ](#)
- [System Status](#)
- [Available Software](#)
- [Questions/Feedback](#)
- [Credit Line](#)

Resources

- [Phoenix](#)
- [Jaguar](#)
- [Ram](#)
- [HPSS](#)
- [Visualization](#)

Non-NLCF

Resources

- [Cheetah](#)

Jaguar



- [Open Issues](#)
- [Compiling](#)
- [File Systems](#)
- [Running Jobs](#)
- [System Status](#)
- [FAQ](#)
- [IO Tips \(In progress\)](#)
- [Cray Performance Analysis Tools](#)

Jaguar is a Cray XT4 provided as a primary system in the National Leadership Computing Facility (NLCF).

The current Jaguar installation has 6,412 processor nodes. Of those, 6,296 are configured as compute nodes and the remainder provide I/O and login services. The compute nodes each consist of a 2.6 GHz dual-core AMD Opteron processor and 4 GB of memory. The service nodes consist of a 2.4 GHz single-core AMD Opteron processor and 2 GB of memory. The system provides an aggregate peak performance of over 65 Teraflops with approximately 25 terabytes of aggregate memory. The system has approximately 100 TB of scratch disk space available for use in the lustre filesystem.

Each node is connected to a Cray Seastar router through Hypertransport, and the Seastars are all interconnected in a 3D-torus topology. The resulting interconnect has very high bandwidth, low latency, and extreme scalability.

The operating system is UNICOS/lc, which is a combination of Linux on the service nodes and the Catamount microkernel on the compute nodes. Catamount is designed to minimize system overhead, thus allowing scalable low-latency global communication.

Important: Jaguar 100 TF Upgrade Information

Jaguar Roadmap: An Overview of Planned Jaguar Upgrades(9/15/2006)

External Links:

- [Cray XT3 Overview at Cray, Inc.](#)
- [Red Storm](#), the project between Cray and Sandia National Laboratories that led to the XT3 product.
- [Lustre](#)

The NCCS Weekly Update

- **Sent to all users**
 - Sent to the email address we have on file--please keep this up to date
- **Primary means of communication with users about center events**
 - Downtimes/Upgrades
 - Software changes
 - Conferences
- **Sent on Friday afternoon**
- **If you are not receiving this message, please contact help@nccs.gov so we can update your email address in our database**

NCCS Conference Call

- **Started in the fall of last year**
- **Held monthly on the second Tuesday**
- **Forum for system announcements, user suggestions/questions, etc.**
- **Dial-in information is sent the Monday before (to the ccs-announce mailing list)**
- **Your participation is encouraged!**



Contacting the User Assistance Center

- **Users that are on site are welcome to come to Building 5600, Room C103**
- **Phone: (865) 241-6536**
- **Email: help@nccs.gov**
- **NCCS Suggestion Box**

If there is something we can do to assist you in using the NCCS systems, please let us know!

Summary

- **Don't be shy! We value your input...If you have a suggestion, let us know!**
- **The user survey is one of our main tools for judging user satisfaction and user feelings of what we're doing right/wrong**
- **In the last 6 months, we've made many enhancements to the way we interact with users**
 - And will continue to do so

Comments/Questions?